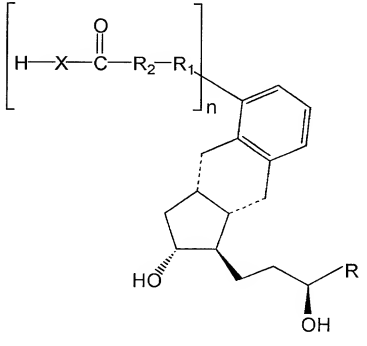
What is Claimed is:

1. A pharmaceutical composition useful for the treatment of cancer comprising a cancer-treating effective amount of at least one prostacyclin derivative selected from compounds of Formula I and pharmaceutically acceptable salts and esters thereof,



I

wherein:

n is 0 or 1;

X is selected from O or NH;

R_1 is selected from the group consisting of O, N, S and C;

R_2 is an alkyl group having at least one carbon atom, and

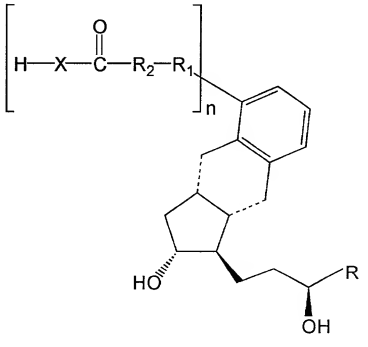
R is selected from H or an alkyl group having at least one carbon atom, and a pharmaceutically acceptable carrier.

2. The pharmaceutical composition of claim 1 wherein R is an alkyl group having 1 to 6 carbon atoms.

3. The pharmaceutical composition of claim 1 wherein R_2 is an alkyl group having 1 to 6 carbon atoms.

4. The pharmaceutical composition of claim 1 wherein n is 1; X is O; R_1 is O; R_2 is methyl; and R is *n*-pentyl.

5. A pharmaceutical composition comprising a metastasis-inhibiting effective amount of at least one prostacyclin derivative selected from compounds of Formula I,



I

wherein:

n is 0 or 1;

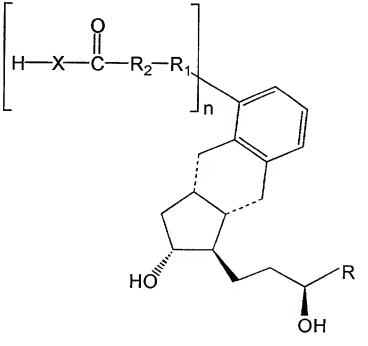
X is selected from O or NH;

R_1 is selected from the group consisting of O, N, S and C;

R_2 is an alkyl group having at least one carbon atom; and

R is selected from H or an alkyl group having at least one carbon atom, and pharmaceutically acceptable salts and esters thereof, and a pharmaceutically acceptable carrier, for inhibiting metastasis of cancer cells within a warm-blooded animal including humans afflicted with cancer.

6. A pharmaceutical composition comprising a protein degradation-inhibiting effective amount of at least one prostacyclin derivative selected from compounds of Formula I and pharmaceutically acceptable salts and esters thereof,



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wherein:

n is 0 or 1;

X is selected from O or NH;

R_1 is selected from the group consisting of O, N, S and C;

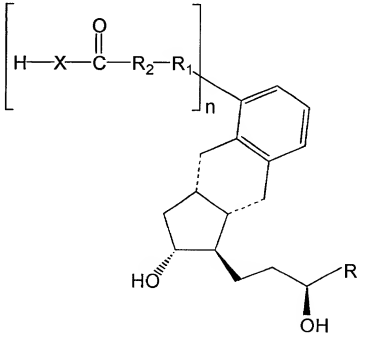
R_2 is an alkyl group having at least one carbon atom; and

R is selected from H or an alkyl group having at least one carbon atom, and a pharmaceutically acceptable carrier, for inhibiting protein degradation caused by cancer cells within a warm-blooded animal including humans afflicted with cancer.

7. The pharmaceutical composition of claim 6 wherein the protein degradation-inhibiting effective amount is sufficient to prevent degradation of proteins contained in the extracellular matrix of tissues.

8. The pharmaceutical composition of claim 6 wherein the protein degradation-inhibiting effective amount is sufficient to prevent degradation of collagen contained in the extracellular matrix of tissues

9. A pharmaceutical composition comprising an apoptosis-promoting effective amount of at least one prostacyclin derivative selected from compounds of Formula I and pharmaceutically acceptable salts and esters thereof,



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wherein:

n is 0 or 1;

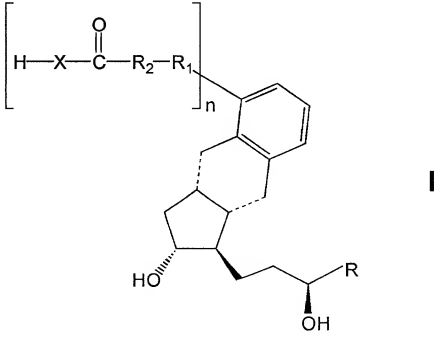
X is selected from O or NH;

R_1 is selected from the group consisting of O, N, S and C;

R_2 is an alkyl group having at least one carbon atom; and

R is selected from H or an alkyl group having at least one carbon atom, and a pharmaceutically acceptable carrier, for promoting apoptosis in cancer cells within a warm-blooded animal including humans afflicted with cancer.

10. A pharmaceutical composition comprising an antiproliferative effective amount of at least one prostacyclin derivative selected from compounds of Formula I and pharmaceutically acceptable salts and esters thereof,



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wherein:

n is 0 or 1;

X is selected from O or NH;

R_1 is selected from the group consisting of O, N, S and C;

R_2 is an alkyl group having at least one carbon atom; and

R is selected from H or an alkyl group having at least one carbon atom, and a pharmaceutically acceptable carrier, for controlling cell proliferation of cancer cells within a warm-blooded animal including humans afflicted with cancer.

11. A method of treating cancer comprising administering to a warm-blooded animal including humans afflicted with cancer a cancer-treating effective amount of the pharmaceutical composition of claim 1.

12. The method of claim 11 comprising administering said at least one prostacyclin derivative in a dosage amount of from about 0.01 µg/kg/day to 500 mg/kg/day to said warm-blooded animal.

13. The method of claim 11 comprising administering said at least one prostacyclin derivative in a dosage amount of from about 0.01 µg/kg/day to 100 mg/kg/day to said warm-blooded animal.

14. The method of claim 11 comprising administering said pharmaceutical composition intravenously to said warm-blooded animal.

15. The method of claim 11 comprising administering said pharmaceutical composition subcutaneously to said warm-blooded animal.

16. The method of claim 11 comprising administering said pharmaceutical composition by inhalation to said warm-blooded animal.

17. The method of claim 11 comprising administering said pharmaceutical composition orally to said warm-blooded animal.

18. A method of inhibiting metastasis in a warm-blooded animal including humans afflicted with cancer, said method comprising administering to the warm-blooded animal a metastasis-inhibiting effective amount of the pharmaceutical composition of claim 5.

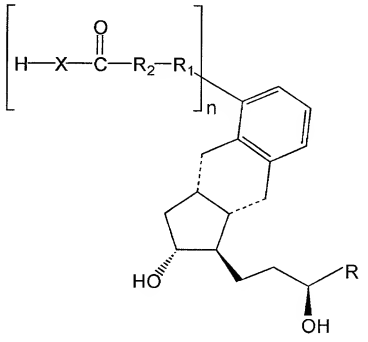
19. A method of inhibiting protein degradation caused by cancer cells in a warm-blooded animal including humans afflicted with cancer, said method comprising administering to the warm-blooded animal a protein degradation-inhibiting effective amount of the pharmaceutical composition of claim 6.

20. A method of promoting apoptosis in cancer cells in a warm-blooded animal including humans afflicted with cancer, said method comprising administering to the warm-blooded animal an apoptosis-promoting effective amount of the pharmaceutical composition of claim 9.

21. A method of controlling cell proliferation of cancer cells in a warm-blooded animal including humans afflicted with cancer, said method comprising administering to the warm-blooded animal an antiproliferative effective amount of the pharmaceutical composition of claim 10.

22. A kit for treating cancer, said kit comprising:

(i) a cancer-treating effective amount of at least one prostacyclin derivative selected from compounds of Formula I and pharmaceutically acceptable salts and esters thereof,



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wherein:

n is 0 or 1;

X is selected from O or NH;

R_1 is selected from the group consisting of O, N, S and C;

R_2 is an alkyl group having at least one carbon atom; and

R is selected from H or an alkyl group having at least one carbon atom;

(ii) a pharmaceutically acceptable carrier; and

(iii) instructions for administering the at least one prostacyclin derivative and pharmaceutically acceptable carrier to a warm-blooded animal.

23. The kit of claim 22 wherein R is an alkyl group having 1 to 6 carbon atoms.

24. The kit of claim 22 wherein R_2 is an alkyl group having 1 to 6 carbon atoms

25. The kit of claim 22 wherein n is 1; X is O; R_1 is O; R_2 is methyl; and R is n-pentyl

26. The kit of claim 22 wherein the at least one prostacyclin derivative and the pharmaceutically acceptable carrier are each in the form suitable for oral administration.

27. The kit of claim 22 wherein the at least one prostacyclin derivative and the pharmaceutically acceptable carrier are each in the form suitable for inhalation.

28. The kit of claim 22 wherein the at least one prostacyclin derivative and the pharmaceutically acceptable carrier are each in the form suitable for parenteral administration.